

IN THE CLAIMS:

Please cancel claims 1-25 without prejudice or disclaimer, and substitute new claims 26-50 therefor as follows:

Claims 1-25 (Cancelled).

26. (New) A receiver front-end for use in a transceiver station of a wireless communication network, said transceiver station being associated with an antenna assembly comprising a primary and at least a secondary antenna, said receiver front-end being adapted for insertion between said antenna assembly and signal processing sections of said transceiver station, said receiver front-end comprising a primary and at least a secondary receiving branch, said primary receiving branch being adapted for coupling to said primary antenna and to said signal processing sections of said transceiver station and said secondary receiving branch being adapted for coupling to said secondary antenna and to said signal processing sections, said primary receiving branch comprising non-superconducting components, comprising at least a non-superconducting filter, and said secondary receiving branch comprising at least a superconducting component.

27. (New) The receiver front-end according to claim 26, wherein said primary receiving branch does not comprise superconducting components.

28. (New) The receiver front-end according to claim 26, wherein said superconducting component comprises a low-loss filter obtained with a technology based on high critical temperature superconducting materials.

29. (New) The receiver front-end according to claim 28, wherein said secondary receiving branch comprises a cryogenic, low-noise amplifier cascade connected to said low-loss filter.

30. (New) The receiver front-end according to claim 29, wherein said low-loss filter and said cryogenic, low-noise amplifier are both enclosed in a cryogenic refrigerator unit operating at cryogenic temperatures.

31. (New) The receiver according to claim 26, wherein said primary receiving branch comprises a non-superconducting receiving filter and a non-cryogenic, low-noise amplifier mutually connected in cascade arrangement.

32. (New) The receiver according to claim 26, wherein said primary receiving branch comprises a non-superconducting receiving filter and a cryogenic, low-noise amplifier mutually connected in cascade arrangement.

33. (New) The receiver according to claim 32, wherein said low-loss filter, said cryogenic, low-noise amplifier of said primary receiving branch and said cryogenic, low-noise amplifier of said secondary receiving branch are enclosed in a cryogenic refrigerator unit.

34. (New) The receiver front-end according to claim 30 wherein said cryogenic refrigerator unit operates at cryogenic temperatures lower than 250 K.

35. (New) The receiver front-end according to claim 30, wherein said cryogenic refrigerator unit operates at cryogenic temperatures lower than 100 K.

36. (New) The receiver front-end according to claim 30, wherein said cryogenic refrigerator unit operates at cryogenic temperatures higher than 60 K.

37. (New) The receiver front-end according to claim 28, wherein said low-loss filter has a noise figure lower than 0.7 dB.

38. (New) The receiver front-end according to claim 28, wherein said low-loss filter has a noise figure lower than 0.5 dB.

39. (New) The receiver front-end according to claim 28, wherein said low-loss filter has a noise figure lower than 0.3 dB.

40. (New) The receiver front-end according to claim 26, wherein said primary receiving branch is connected in parallel to a primary transmission branch, said primary transmission branch comprising a transmitting filter.

41. (New) The receiver front-end according to claim 26, wherein said secondary receiving branch is connected in parallel to a secondary transmission branch, said secondary transmission branch comprising a transmitting filter.

42. The receiver front-end according to claim 41, wherein said transmitting filter in said secondary transmission branch is obtained with a technology based on high critical temperature superconducting materials.

43. (New) The receiver front-end according to claim 26, wherein the receiver front-end is mounted at such a distance from said antenna assembly that losses due to antenna lead-in are negligible with respect to the noise figure introduced by said receiver front-end.

44. (New) The receiver front-end according to claim 43, wherein said distance is no greater than 3 m.

45. (New) The receiver front-end according to claim 44, wherein said distance is no greater than 1 m.

46. (New) A method for improving reliability of a receiver front-end for use in a transceiver station of a wireless communication network comprising the steps of:

sending primary and secondary radio signals to a primary and, respectively, a secondary antenna, said primary and secondary antennas being included in an antenna assembly comprised in said transceiver station;

filtering said primary radio signal at non-cryogenic temperatures;

processing said secondary radio signal at cryogenic temperatures; and

sending the resulting primary and secondary radio signals to signal processing sections of said transceiver station.

47. (New) The method according to claim 46, wherein said step of processing said secondary radio signal at cryogenic temperatures comprises the step of:

filtering said secondary radio signal to select a desired frequency band within a communication band; and

amplifying said filtered secondary radio signal without introducing any significant losses.

48. (New) The method according to claim 46, comprising the step of amplifying said primary radio signal at non-cryogenic temperatures.

49. (New) The method according to claim 46, comprising the step of amplifying said primary radio signal at cryogenic temperatures.

50. (New) A transceiver station comprising a receiver front-end according to claim 26, wherein said signal processing sections are coupled to said receiver front-end.